REMARKS

This is in response to the Office Action mailed on August 3, 2005, and the references cited therewith.

Claims 1, 10, 13, 16 and 21 were amended consistent with a prior Examiner Amendment of 12/31/2003. The Examiner Amendment to the claims was done for clarity, and not in response to art, nor are they believed to narrow the claims. Further amendment to claim 16 was done to add references to controllers fusing probabilities from sensors. Claims 1-23 are now pending in this application.

Claim Objections

In view of the Information Disclosure Statement filed April 5, 2005, the indication of allowable subject matter and the examiners amendment of December 31, 2005 is withdrawn. The claims examined in this office action are the claims presented on October 3, 2003. It is noted that the examiners amendment of December 31, 2005 is not presented in the application; thus, if applicant desires for prosecution of the application to proceed based on the claim language of the examines amendment, applicant should amend the claims to include such language.

§103 Rejection of the Claims

Claims 1-14, 16 and 18-22 were rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent 6,490,530 to Wyatt in view of "Sensing for Danger" by Hills.

Claim 1 recites combining "probabilities of detection provided by the sensors to determine whether such agents are a threat with a greater probability than any individual sensor." The Office Action indicates that Wyatt does not disclose a system that uses Bayesian network as an evidence accrual system that integrates sensor data to perform data fusion, producing an output with higher probability of detection. However, the Office Action indicates that Hills discloses a system that uses a Bayeseian network as an evidence accrual system and algorithm for groups of sensors that integrates sensor data to perform data fusion, producing an output with higher probability of detection (Hill, pages 12-17).

In Hills, each sensor fuses probabilities from neighboring nodes with their own likelihood of detection, and sends the fused value on to neighboring nodes. In Wyatt, sensors do not calculate probabilities. Claim 1 specifically calls out that a controller combines probabilities of sensors to determine whether such agents are a threat with a greater probability than any individual sensor. This recites a different process than that used in Hills, where sensor do some combining and pass on fused probabilities to further nodes. The controller of claim 1 of the present application combines the probabilities from individual sensors in an area to determine whether the agents are a threat with a greater probability than any individual sensor. Claims 2-8 depend from claim 1 and distinguish the reference for at least the same reason.

Independent claim 10 references sensors for detecting agents in multiple areas with a probability of accuracy, and a plurality of controllers coupled to selected groups of sensors protecting each area. In Wyatt, the sensors do not calculate a probability of accuracy, and in Hills, the sensors are not coupled to controllers that collect information from them to determine whether such agents are a threat to a respective area with greater probability than any individual sensor. Further, in Hills, probabilities from nearby sensors is fused by the sensors and passed on to other sensors. Claim 10 clearly shows a different structure – integrating controllers for respective areas, and an operating controller that performs data fusion to determine a final decision for the entire area under protection. This additional structure of controllers clearly distinguishes from the references. The combination of the references lacks this structure and methodology. A proper prima facie case of obviousness has not been established, and the rejection should be withdrawn.

Claim 13 describes the use of different types of sensors, where the sensors are placed at different locations within the building based on the characteristics of the sensor. Wyatt does not describe the use of different types of sensors in the language referenced in the Office Action. Only aerosol detectors are used, and there is no reference to placing them in buildings based on the characteristics of the detector. Thus, claim 13 also has at least one element not shown in Waytt, and the rejection should be withdrawn. Claim 14 depends from claim 13, and distinguishes for at least the same reasons.

Claim 16 has been amended to more clearly point out that controllers combine the conditional probability information from each of the sensors. In Hills, the sensors themselves

fuse probabilities from other sensors and pass it on. There is no concept of a controller or controllers that receive all the probabilities from each of the sensors and then combine them. It is thus believed to distinguish the references as above.

Claim 21 references both the probability of detection for sensors, in this case, for multiple sensors for a given threat. In addition, fusion of the multiple groups, and fusion for a combination of the multiple groups is described. Neither of these elements is found in Waytt. Col. 11, line 66 to Col. 12, line 39 is cited as showing portions of this claim. In fact, this language in Waytt describes processing data points to obtain the maximum value recorded which is then transmitted to the CPU module 6. This is not a probability, but rather an actual data point. Thus, claim 21 clearly distinguishes from Waytt, and the rejection should be withdrawn. Hills also does not show decision fusion for multiple groups of sensors combined with then combining the multiple local groups.

Claims 15 and 17 were rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent 6,490,530 to Wyatt in view of "Sensing for Danger" by Hills as applied to claims 13 and 16 above. These claims depend from a claim that is believed allowable, and should be allowable for at least the same reasons.

Claim 23 was rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent 6,490,530 to Wyatt in view of "Sensing for Danger" by Hills as applied to claim 21above, and further in view of "The Automatic Management of Multi-Sensor Systems" by Penny. Claim 23 depends from claim 21, which is believed to be allowable. It further describes a method of selecting optimal combinations of local and combined groups of sensors based on the performance of the different combinations. The Office Action cites Penny as disclosing this element. Penny shows grouping of sensors into a single configuration selected from different configurations. However, it does not show the method of claim 23, wherein there are multiple combinations of groups of sensors. It also does not show selecting optimal combinations from the combinations as claimed.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 1st day of November, 2005.

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